AMENDMENTS TO THE CLAIMS

1–8. (Cancelled).

9. (Currently Amended) A method ~~of~~ for reconfiguring a telecommunications transport network after addition or removal of a network resource, the method comprising:

identifying a series of single circuit movements to re-route a network from a set of n actual circuits CA_i (i=1, …, n), each satisfying a corresponding demand R_i to a set of feasible intermediate circuits CI_i which continue to satisfy the demands R_i and which best approximate a series of target circuits CT_i, comprising:

(a) initializing the circuit set CI to CA;

(b) for each demand R_i still to be processed

(i) calculating one or more candidate replacement circuits CI_i, each candidate replacement circuit CI_i satisfying the demand R_i and having a lower cost difference with respect to the corresponding target circuit CT_i than the current circuit CI_i satisfying the demand R_i;

(ii) replacing the current circuit CI_i with the candidate replacement circuit CI_i having the least cost difference; and

(iii) marking the ~~criterion~~ demand R_i as having been processed; and

(c) identifying the sequence with which circuits CI_i were replaced as the series of single circuit movements to re-route the network.

10. (Previously Presented) The method of claim 9 wherein each circuit comprises one or more legs connecting two or more nodes, and wherein calculating the cost difference of a candidate replacement circuit CI_i with respect to the corresponding target circuit CT_i comprises summing the costs of the legs of the circuit CI_i that do not overlap with the legs of the target circuit CT_i.

11. (Currently Amended) The method of claim 10 wherein calculating the cost difference further comprises excluding a cost associated with an unused leg of the target circuit CT_i.

12. (Previously Presented) The method of claim 9 wherein the cost of a circuit is the sum of the cost of each circuit leg.

13. (Currently Amended) The method of claim 9 further comprising, after processing all demands R_i, determining whether ~~the current set of feasible intermediate circuits CI_i is sufficiently close to the set of target circuits CT_i~~ to take the sequence with which circuits CI_i have been replaced as the series of single circuit movements to re-route the network, or whether to repeat step (b) using the current set of feasible intermediate circuits CI_i.

14. (Currently Amended) The method of claim 13 wherein the determination is made based on the overall ~~distance~~ difference in cost between the CA circuits and the CI circuits.

15. (Currently Amended) The method of claim 13 wherein the determination is made based on the overall ~~distance~~ difference in cost between the CI circuits and the CT circuits.

16. (Previously Presented) The method of claim 9 further comprising providing the identified sequence of single circuit movements to a network manager for implementation on the network.

17. (Currently Amended) The method of claim 16 further comprising performing the identified ~~the series~~ sequence of single circuit movements on a network by the network manager.

18. (Currently Amended) A telecommunications transport network comprising:

a plurality of circuits that satisfy a corresponding plurality of demands R; and

a network simulator operative to ~~identify~~ reconfigure the telecommunications transport network after addition or removal of a network resource by identifying a series of single circuit movements to re-route the network by:

(a) initializing a circuit set CI to CA, wherein CA comprises a set of n actual circuits CA_i (i=1, …, n), each satisfying a corresponding demand R_i, and wherein CI comprises a set of feasible intermediate circuits CI_i which continue to satisfy the demands R_i and which best approximate a series of target circuits CT_i,;

(b) for each demand R_i still to be processed

(i) calculating one or more candidate replacement circuits CI_i, each candidate replacement circuit CI_i satisfying the demand R_i and having a lower cost difference with respect to the corresponding target circuit CT_i than the current circuit CI_i satisfying the demand R_i;

(ii) replacing the current circuit CI_i with the candidate replacement circuit CI_i having the least cost difference; and

(iii) marking the ~~criterion~~ demand R_i as having been processed; and

(c) identifying the sequence with which circuits CI_i were replaced as the series of single circuit movements to re-route the network.